

REMARKS

The Examiner is thanked for the thorough examination of the present application. The Office Action, however, continued to reject all claims 1-18. For at least the reasons set forth herein, Applicants respectfully request reconsideration and withdrawal of the rejections.

Applicants have made a minor, cosmetic amendment to independent claims 1, 7, and 14. This amendment raises no new issues.

Rejection of claims under 35 U.S.C. §103(a)

The Office Action has rejected claims 1-18 under 35 U.S.C. § 103(a) as allegedly unpatentable over Ofek et al. (US 2004/0196834) and further in view of Nguyen (2003/0181221). Applicants respectfully request reconsideration of the rejections for at least the following reasons.

Of the rejected claims, only claims 1, 7, and 14 are independent claims, and the discussion below will focus on these claims.

MPEP §2142 specifies that:

The examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. If the examiner does not produce a *prima facie* case, the applicant is under no obligation to submit evidence of nonobviousness.

In rejecting claims 1, 7 and 14, the Office action has admitted that Ofek does not teach a plurality of directional antennas or antenna arrays respectfully installed on said WLAN transceiver modules in an one-to-one correspondence, but alleges that Nguyen teaches this claimed feature (wherein the antenna arrays

are controlled to be directional radiation patterns). Applicant respectfully disagrees, and indeed submits that it is not clear how the Examiner is reaching this conclusion from Nguyen.

Specifically, claims 1, 7, and 14 recite:

1. A WLAN (Wireless Local Area Network) device having a smart antenna system, comprising:
a plurality of WLAN transceiver modules; and
a plurality of directional antennas, respectively installed on said WLAN transceiver modules in an one-to-one correspondence, wherein said directional antennas are equally spaced apart in an annular array, and each of said directional antennas is responsible for the communication of a plurality of users in a cell.

7. A WLAN device having a smart antenna system, comprising:
a plurality of WLAN transceiver modules; and
a plurality of array antennas, respectively installed on said WLAN transceiver modules in an one-to-one correspondence, wherein each of said array antennas is composed of a plurality of omni-directional antennas, and the radiation patterns of said array antennas are controlled to be directional radiation patterns, and each of said array antennas is responsible for the communication of a plurality of users in two opposite cells.

14. A smart antenna system, comprising:
a plurality of directional antennas, respectively installed on a plurality of WLAN transceiver modules in an one-to-one correspondence, wherein said directional antennas are equally spaced apart in an annular array, and each of said directional antennas is responsible for the communication of a plurality of users in a cell.

(*Emphasis added*). Each of claims 1, 7, and 14 patently define over the cited art for at least the reason that the cited art fails to disclose the features emphasized above.

In contrast to the emphasized features, Nguyen's smart antenna 120 is connected to an access station in an access point 125, which is responsible for the communication of the stations 130-1, 130-2, ..., 130-N from all directions (see FIG. 1 and paragraph [0019]). As such, it is not composed of directional antennas, each of which is responsible for the communication of a plurality of users in a cell. Therefore, Nguyen does not teach or suggest the claimed feature of directional antennas or the antenna arrays controlled to be directional radiation patterns.

Further, Nguyen teaches that the number of the antennas per unit 2200 can be conveniently selected (see FIG. 3 and paragraph [0027]). Such as described in paragraph [0033], depending on the number of antennas desired for a particular application, a combination of a number of antennas per sub unit 2200, a number of sub units 2200 per unit 220, and a number of units 220 per baseband chip 210 may be selected, for example, if six antennas are desired, then two antennas per each sub units 2200, and three sub units 2200 per each unit 220 may be selected. Apparently, Nguyen fails to teach or suggest each sub unit 2200 has only one antenna, and thus Nguyen's antennas are not respectfully installed on the sub units 2200 in an one-to-one correspondence.

Moreover, Nguyen's access point 125 has a plurality of RF units 220(1) to 220(M), each of RF units including a plurality of RF sub units 2200, each of the RF sub units 2200 carrying at least one antenna (see FIG. 2 and paragraph [0022]). That is, each of the RF units 220 has a plurality of antennas installed

thereon, and thus Nguyen's RF units 220 are not in a one-to-one correspondence with the antenna.

Therefore, Nguyen fails to teach or suggest that the smart antenna 120 are composed of directional antennas or controlled to be directional radiation patterns; the antennas 310 are respectively on the RF units 220 or RF sub units 2200 are in an one-to-one correspondence. Accordingly, it is respectfully submitted that, even if Ofek and Nguyen are properly combined, the resulting combination would not result in the specific combination that is recited in claims 1, 7, and 14 of the present application. It is therefore respectfully submitted that that the Office Action fails to establish a *prima facie* case of obviousness under §103 with respect to claims 1, 7, and 14. Independent claims 1, 7 and 14 therefore patentably define over the combination of Ofek and Nguyen.

Insofar as claims 2-6, 8-13, and 15-8 depend from the independent claims 1, 7, and 14 respectively, these claims are likewise patentably distinguishable over Ofek in view of Nguyen for at least the same reasons as the independent claims from which the dependent claims respectively depend.

Accordingly, Applicants respectfully request that the section 103(a) rejections be withdrawn.

Rejections are Legally Deficient

As a separate and independent basis for the patentability of all claims, Applicant submits that the rejections are legally deficient because the Office Action fails to cite any motivation to combine Nguyen with Ofek.

In this regard, the MPEP section 2141 states:

Office policy has consistently been to follow Graham v. John Deere Co. in the consideration and determination of obviousness under 35 U.S.C. 103. As quoted above, the four factual inquiries enunciated therein as a background for determining obviousness are briefly as follows:

- (A) Determining of the scope and contents of the prior art;
- (B) Ascertaining the differences between the prior art and the claims in issue;
- (C) Resolving the level of ordinary skill in the pertinent art;
- and
- (D) Evaluating evidence of secondary considerations.

...

BASIC CONSIDERATIONS WHICH APPLY TO OBVIOUSNESS REJECTIONS

When applying 35 U.S.C. 103, the following tenets of patent law must be adhered to:

- (A) The claimed invention must be considered as a whole;
- (B) The references must be considered as a whole and must suggest the desirability and thus the obviousness of making the combination;
- (C) The references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention and
- (D) Reasonable expectation of success is the standard with which obviousness is determined.

Hodosh v. Block Drug Co., Inc., 786 F.2d 1136, 1143 n.5, 229 USPQ 182, 187 n.5 (Fed. Cir. 1986).

The foregoing approach to obviousness determinations was recently confirmed by the United States Supreme Court decision in *KSR INTERNATIONAL CO. V.*

TELEFLEX INC. ET AL. 550 U.S. ____ (2007)(No. 04-1350, slip opinion, p. 2),

where the Court stated:

In *Graham v. John Deere Co. of Kansas City*, 383 U. S. 1 (1966), the Court set out a framework for applying the statutory language of §103, language itself based on the logic of the earlier decision in *Hotchkiss v. Greenwood*, 11 How. 248 (1851), and its progeny. See 383 U. S., at 15–17. The analysis is objective:

“Under §103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented.” *Id.*, at 17–18.

Simply stated, the Office Action has failed to follow this legal precedent.

In this regard, the Office Action has merely alleged that the combination would have been obvious, without specifying any reason why. Specifically, the Office Action states:

...Therefore, it would have been obvious ... to modify and incorporate Nguyen teachings into Ofek invention in order to have the feature a plurality of array antennas, respectively installed on said WLAN transceiver modules in an one-to-one correspondence...

Such a rationale is circular, as it merely states that the motivation for combining references is the desire to provide the claimed feature. The legal precedent for 35 U.S.C. § 103, however, requires that the Patent Office articulate an objective reason, in the prior art, for making the combination. The Office Action has failed to do this.

For at least this separate and independent reason, the rejections are deficient and should be withdrawn.

CONCLUSION

In light of the above remarks, all objections and rejections having been addressed, it is therefore respectfully requested that claims 1-18 be allowed so that the entire case may be passed to early issuance. If there are any remaining issues to be resolved, the applicant requests that the Examiner contact the undersigned.

No fee is believed to be due in connection with this amendment and response to Office Action. If, however, any fee is believed to be due, you are hereby authorized to charge any such fee to deposit account No. 20-0778.

Respectfully submitted,

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